

**REMARKS**

Claims 1-20 are all the claims pending in the application. Claims 1-20 stand rejected.

**Claim Rejections - 35 U.S.C. § 112, Second Paragraph - Claims 1-17, 19 and 20**

The Examiner rejected claims 1-17, 19 and 20 under § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse this rejection as follows.

In particular, the Examiner alleges that the recitation within claims 1, 8, 13-15, 17, 19 and 20 that states, “a foam element at a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor,” is unclear and confusing. (Office Action, pg. 2) Further, the Examiner notes that from Applicants disclosure it is understood that “a foam element at a foam ratio selected to substantially match the impedance of the covering of the conductor.” Additionally, the Examiner indicates that claims 2-7, 9-12 and 16 are rejected because of their dependency.

While Applicants agree that the present Specification states “a foam element at a foam ratio selected to substantially match the impedance of the covering of the conductor,” the present Specification also clearly supports and provides a clear meaning of the recitation rejected by the Examiner. For example, the present specification indicates:

(1) when the insulator is removed from the terminal, and the conductor is exposed to connect to the connection terminal of the electrical conductor, the impedance of this terminal becomes different from the impedance of the insulation covered portion (Specification, pg. 1, last para.);

(2) “[a]n object of the invention is to provide an electrical connector, which has an impedance controlled to an appropriate predetermined value, thus

optimizing the impedance of the electrical connector” (Specification, pg. 3, second para.);

(3) the foam resin 31 includes uniformly dispersed gas bubbles 31a and the gas bubbles 31a function as a capacitance or impedance control means (Specification, pg. 10, second para); and

(4) “[m]oreover, coincidence of the impedance in the connection portion 81 with approximation to the impedance of coverings 22 and 29 reduces any loss on the connection portion 81” (Specification, pg. 11, second para.).

Thus, the recitation is very clear in light of the Specification. One of skill in the art would recognize that the Specification teaches that the foam ratio of the foam can be used to control impedance. Furthermore, the Specification makes clear that coincidence of the impedance with approximation to the impedance of the coverings reduces any loss on the connection portion. Finally, because removing the insulator from the terminal changes the impedance, one of ordinary skill, faced with the teachings of the present Specification would select a foam element at a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor, as recited and logically supported by the present Specification.

While the Examiner seems to allege that Applicants’ disclosure states “a foam element at a foam ratio selected to substantially match the impedance of the covering of the conductor,” Applicants disclosure also provides clear support and understanding such that one of ordinary skill in the art would also modify connection portion to approximately match the impedance of the coverings to reduce any loss (see point (4) above).

Thus, Applicants respectfully submit that this rejection is in error and should be withdrawn.

**Claim Rejections - 35 U.S.C. § 103 (a) -Claims 1-4, 6-10 and 14-16**

The Examiner rejected claims 1-4, 6-10 and 14-16 as being unpatentable over Moore et al. (US 6,064,003; “Moore”) in view of Knapp et al. (US 4,521,064; “Knapp”). Applicants respectfully traverse this rejection because the Examiner has failed to make a proper *prima facie* case of obviousness, and even if combined as the Examiner has attempted, neither Moore nor Knapp, alone or in combination teach or suggest, “a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor,” as recited in each of independent claims 1, 8, 14 and 15.

The Examiner alleges that Moore discloses most of the features of each of independent claims 1, 8, 14 and 15, but concedes that Moore fails to disclose “the foam element having a foam ration selected to substantially match the impedance of the covering of the conductor. (Office Action, pg. 4, second para.) To compensate for the deficiency of Moore, the Examiner applies Knapp alleging that Knapp discloses an electrical connector comprising a foam element which has a foam ratio of 35%-55%. Furthermore, the Examiner alleges that it would have been obvious to one skilled in the art to provide the foam element of Moore to have an impedance being closer to the impedance of the conductor, in other words to provide the foam element of Moore with a foam ratio of 35%-55% as taught by Knapp to meet the specific use of the resulting device since lower ratio would reduce the moisture-proof qualities and higher ratio would reduce the compressibility of the material. Finally, the Examiner states that the modified assembly of Moore also discloses the foam element including a resin, wherein the impedance of the foam element being closer to impedance of the covering.

Applicants respectfully submit that the Examiner is guilty of classic hindsight reconstruction where the claimed invention is trivialized because the Examiner can find some of the individual elements existing in a number of prior art references. The proposed motivating factor - “to have an impedance being closer to the impedance of the covering of the conductor” - is found nowhere in any of the prior art references cited by the Examiner. Moreover, this is a specific teaching from Applicants’ own disclosure. In support of Applicants’ position, it is noted that the Federal Circuit is unwavering in its condemnation of hindsight logic. In *Grain Processing Corp. v. American Maize Products Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988), the Federal Circuit stated:

Care must be taken to avoid hindsight reconstruction using the patent in suit as a guide through the maze of prior art references combining the right references in the right way so as to achieve the result of the claims in suit.

(*Id.*)

Notably, neither Moore nor Knapp disclose matching any impedance values. Moreover, neither reference even mentions the term “impedance” within its disclosure. Thus, because the motivation provided is only found within Applicant’s own disclosure, and the Examiner has provided no objective source for the motivation, teaching or suggestion to combine, Applicant submits that the Examiner has failed to make a *prima facie* case of obviousness.

Additionally, in the Response to Arguments section, the Examiner improperly relies on *In re Dillion*, 16 USPQ2d 1897, stating that the Examiner’s burden of establishing *prima facie* obviousness is satisfied by a showing of structural similarity between the claims and the prior art; it does not require a showing of some suggestion of expectation in the prior art that the

structurally similar matter will have the same or a similar utility as that discovered by the applicant. While *Dillion* may stand for the proposition that foam having a similar structure to another foam may have the same impedance value, this structural similarity fails to provide any support for the recitation of selecting a foam ratio to substantially match the impedance of the connection portions with the covering of the conductor. There is simply no support that the foam used in Knapp should match the impedance of the connection portions with the covering of the conductor. The most that *Dillion* supports is that similar foam ratios will have similar impedance values. Beyond this, the Examiner's application is misplaced.

Furthermore, even if combined as the Examiner has attempted, neither Moore nor Knapp, alone or in combination, teach or suggest, "a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor," as recited in claims 1, 8, 14 and 15. First, Moore, as conceded by the Examiner, fails to teach or suggest any foam element. Secondly, Knapp, while disclosing a foam material, only teaches or suggests the use of the foam material as a seal against water penetration and ice formation. (col. 3, lines 32-38) There is no teaching or suggestion, or even a remote indication that Knapp or Moore contemplate or are even concerned with matching impedance values. Because the above noted feature is not taught or suggested in any of the references, this rejections under § 103(a) over Moore in view of Knapp is in error and should be withdrawn.

Thus, Applicants respectfully submit that independent claims 1, 8, 14 and 15 are allowable for at least this reason. Further, dependent claims 2-4, 6-7, 9-10 and 16 are allowable, at least because of their dependency.

**Claim Rejection - 35 U.S.C. § 103(a) - Claim 5**

The Examiner rejected claim 5 as being unpatentable over Moore in view of Knapp in further view of Hutchison (US 4,070,084). Applicant traverses this rejection because the Moore/Knapp/Hutchison combination does not compensate for the above noted deficiency with regard to the Moore/Knapp combination.

Thus, Applicants respectfully submit that neither Moore, Knapp, nor Hutchison, nor their combined teachings, taken as a whole for what they would have meant to the person of ordinary skill, teach or suggest “a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor.” The person of ordinary skill would not have (and could not have) been led by the Moore/Knapp/Hutchison combination to the subject matter of independent claim 1, much less to dependent claim 5. Additional, untaught modifications would still have been required. Applicants therefore respectfully request that the Examiner to withdraw this rejection of claim 5.

**Claim Rejection - 35 U.S.C. § 103(a) - Claim 11**

The Examiner rejected claim 11 as being unpatentable over Moore in view of Knapp in further view of Urushibata et al. (US 5,057,650; “Urushibata”). Applicants traverse this rejection because the Moore/Knapp/Urushibata combination does not compensate for the above noted deficiency with regard to the Moore/Knapp combination.

Thus, Applicants respectfully submit that neither Moore, Knapp, nor Urushibata, nor their combined teachings, taken as a whole for what they would have meant to the person of ordinary skill, teach or suggest “a foam ratio selected to substantially match the impedance of the

connection portion with the covering of the conductor.” The person of ordinary skill would not have (and could not have) been led by the Moore/Knapp/ Urushibata combination to the subject matter of independent claim 1, much less to dependent claim 11. Additional, untaught modifications would still have been required. Applicants therefore respectfully request that the Examiner to withdraw this rejection of claim 11.

**Claim Rejection - 35 U.S.C. § 103(a) -Claim 12**

The Examiner rejected claim 12 as being unpatentable over Moore in view of Knapp in further view of Bates (US 4,864,081). Applicants traverse this rejection because the Moore/Knapp/Bates combination does not compensate for the above noted deficiency with regard to the Moore/Knapp combination.

Thus, Applicants respectfully submit that neither Moore, Knapp, nor Bates, nor their combined teachings, taken as a whole for what they would have meant to the person of ordinary skill, teach or suggest “a foam ratio selected to substantially match the impedance of the connection portion with the covering of the conductor.” The person of ordinary skill would not have (and could not have) been led by the Moore/Knapp/ Bates combination to the subject matter of independent claim 1, much less to dependent claim 12. Additional, untaught modifications would still have been required. Applicants therefore respectfully request that the Examiner to withdraw this rejection of claim 12.

**Claim Rejections - 35 U.S.C. § 103(a) - Claims 13 and 17**

The Examiner rejected claim 13 and 17 as being unpatentable over Beamenderfer et al (4,834,674;”Beamenderfer”) in view of Knapp. Applicants traverse this rejection for the same

reasons set forth in detail with regard to the rejection of claim 1 under Moore in view of Knapp. In particular, Beamenderfer fails to compensate for the above noted deficiencies with regard to the failure to make a *prima facie* case of obviousness, and similarly, this combination fails to teach “a foam ratio selected to substantially match the impedance of the connection portions with the covering of the conductor,” as recited in claims 13 and 17.

As discussed above, Knapp fails to teach or suggest this feature. Furthermore, Beamenderfer is silent with regard to any foam element. Thus, Applicants respectfully submit that claims 13 and 17 are allowable over the applied combination.

**Claim Rejections - 35 U.S.C. § 103(a) -Claims 18 and 20**

The Examiner rejected claims 18 and 20 under § 103(a) as being unpatentable over Ichikawa et al. (5,780,774; “Ichikawa”) in view of Moore and Knapp. Applicants respectfully traverse this rejection as follows.

Regarding claim 8, the Examiner alleges that Ichikawa discloses a method of fabricating a connector including forming a pair of resin members preliminarily formed into shapes. (citing FIG. 3) The Examiner also concedes that Ichikawa fails to disclose the pair of resin members being made of a foam resin and molding a resin around the foam resin members. To compensate for this deficiency, the Examiner applies Moore alleging that it discloses an electrical connector comprising foam resin member 72 covering connection portions of the terminal and a conductor and resin 74 around the foam member 72. Then the Examiner alleges that it would have been obvious to one skilled in the art to use foam resin as taught by Moore et al for the resin members of Ichikawa to provide a water tight seal over the connection portions.



In contrast, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to replace the resin members of Ichikawa with the foam members of Moore as alleged by the Examiner. In this instance, the Examiner has failed to establish a *prima facie* case of obviousness because the Examiner merely states in a conclusory fashion that it would have been obvious to one skilled in the art to use foam resin for the resin members of Ichikawa to provide a water tight seal over the connection portions.

This alleged motivation does not comply with the teachings of Ichikawa, and finds no support in any of the applied references. First, Ichikawa teaches an insert molding technique wherein the conductors are insert molded with a synthetic resin material so that a high connection strength can be obtained between the connection portions and the conductors of the electric wire. (col. 2, lines 15-20) No portion of Ichikawa implies that a water-tight seal is even desired. In fact, Ichikawa teaches that the purpose of its disclosed insert molded resin technique is to provide strength against an axial load. (col. 3, lines 44-50) Thus, one of ordinary skill in the art would not so modify Ichikawa because replacing the resin with foam would destroy the high strength between the connections portions and the conductors as taught by Ichikawa. There is simply no support for modifying Ichikawa as alleged by the Examiner.

Furthermore, even if combined as alleged, the cited combination fails to teach or suggest “forming a pair of foam resin covers.” No reference provides any disclosure related to a pair of foam members.

Thus, Applicants respectfully submit that claim 18 is allowable over the applied combination.

Regarding claim 20, Applicants submit that the applied combination fails to teach or suggest “wherein the foam resin has a predetermined foam ratio selected to substantially match the impedance of the connection portions with a covering of the cable conductor.”

Because Ichikawa fails to compensate for the above noted deficiency with regard to the Moore/Knapp combination with regard to claim 1, Applicants respectfully submit that claim 20 is allowable over the applied combination.

**Claim Rejection - 35 U.S.C. § 103(a) - Claim 19**

The Examiner rejected claim 19 as being unpatentable over Ichikawa in view of Bates and Knapp. Applicants respectfully traverse this rejection for reasons identical to those set forth with regard to claim 1. Knapp in combination with Bates and Ichikawa is still deficient in that there is simply no motivation to match any impedance values. Furthermore, Bates and Ichikawa are silent on any impedance values and, further, provide no support for matching any impedance values.

Thus, Applicants submit that independent claim 19 is allowable over the applied combination for at least this reason.

**Conclusion**


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

**Response Under 37 C.F.R. § 1.116**  
**Appln. No. 10/523,829**

**Atty. Dkt. Q86138**

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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